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Atty. Dkt. No. 046577-0103

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Theresa M. Buckley  
Title: PHASE CHANGE MATERIAL THERMAL CAPACITOR CLOTHING  
Appl. No.: 09/989,913  
Filing Date: 11/20/2001  
Examiner: Ramsey E. Zacharia  
Art Unit: 1773

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56**

Mail Stop IDS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicant in order to comply with Applicant's duty of disclosure pursuant to 37 CFR §1.56. A copy of each listed document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.



**TIMING OF THE DISCLOSURE**

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

**RELEVANCE OF EACH DOCUMENT**

All of the documents are in English.

Applicant respectfully requests that any listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Respectfully submitted,

Date

8/17/04

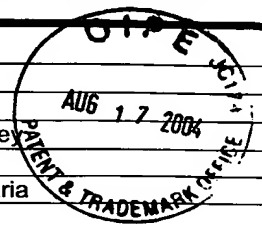
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Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  Date Submitted: August 17, 2004 <i>(use as many sheets as necessary)</i>			<b>Complete if Known</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>09/989,913</td> </tr> <tr> <td>Filing Date</td> <td>11/20/2001</td> </tr> <tr> <td>First Named Inventor</td> <td>Theresa M. Buckley</td> </tr> <tr> <td>Group Art Unit</td> <td>1773</td> </tr> <tr> <td>Examiner Name</td> <td>Ramsey E. Zacharia</td> </tr> <tr> <td>Attorney Docket Number</td> <td>046577-0103</td> </tr> </table>		Application Number	09/989,913	Filing Date	11/20/2001	First Named Inventor	Theresa M. Buckley	Group Art Unit	1773	Examiner Name	Ramsey E. Zacharia	Attorney Docket Number	046577-0103
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### U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	D1	4,807,696		Colvin et al.	02-28-1989	
	D2	4,911,232		Colvin et al.	03-27-1990	
	D3	5,141,079		Whitney et al.	08-25-1992	
	D4	5,148,861		Colvin et al.	09-22-1992	
	D5	5,224,356		Colvin et al.	07-06-1993	
	D6	6,057,266		Colvin et al.	05-02-2000	
	D7	6,298,907	B1	Colvin et al.	10-09-2001	
	D8	6,373,058	B1	McKinney et al.	04-16-2002	
	D9	6,418,832	B1	Colvin	07-16-2002	

### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	D10	WO	94/02257		Buckley	02-03-1994		

### NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	D11	Bayes, S. A., "A Nonventing Cooling System for Space Environment Extravehicular Activity, Using Radiation and Regenerable Thermal Storage", SAE Technical Paper Series, 18 <sup>th</sup> Intersociety Conf. on Environmental Systems (July 11-13, 1988).	
	D12	BMDO, "Enhanced Heat Transfer and Storage Materials for Strategic Defense Systems", Triangle Res. & Dev., Small Business Innovative Research, Award date: 1986 (Abstract).	
	D13	Bue et al., "Advanced Suit Design Analyzer Computer Program", 22 <sup>nd</sup> International Conference on Environmental Systems, (July 13-16, 1992).	
	D14	Case for Mars V, American Astronautical Society, Vol. 97, Science and Technology Series, Conf., pp. 509-510 (May 26-29, 1993).	
	D15	Colvin et al., "Enhanced Heat Transport in Environmental Systems Using Microencapsulated Phase Change Materials", 22 <sup>nd</sup> International Conference on Environmental Systems, (July 13-16, 1992).	
	D16	Colvin et al., "Thermal Management of Electronic Systems Using Diamond Heat Spreaders and Microencapsulated PCM Coolants", 1997 National Heat Transfer Conf. (August, 1997).	
	D17	DOD-AF, "Spacecraft Heat Rejection Methods: Active and Passive Heat Transfer for Electronic Systems", Triangle Res. & Dev., Small Business Innovative Research, Award date: 1985-1986 (Abstract).	
	D18	DOD-AF, "Enhanced Thermal Energy Storage in Clothing With Impregnated PCM", Triangle Res. & Dev., Small Business Innovative Research, Award date: 1987 (Abstract).	
	D19	DOD-NAVY, "Electrorheological Damper Using MicroPCM Fluid", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1991 (Abstract).	

Examiner Signature	Date Considered	
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<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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	D20	DOD-NAVY, "Enhanced Thermal Energy Storage in Clothing with", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1992 (Abstract).	
	D21	DOD-NAVY, "Passive PCM Microclimate Body Undergarment Thermal Management System", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1992 (Abstract).	
	D22	DOD-NAVY, "Using Diamond Film Heat Spreaders and Microencapsulated Phase Change Materials for Electronics Cooling", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1995 (Abstract).	
	D23	DOD-NAVY, "Lightweight, Regenerative MicroPCM Portable Environmental Control Systems (PECS) Garments", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1996 (Abstract).	
	D24	DOD-NAVY, "Lightweight, Regenerative MicroPCM Portable Environmental Control Systems (PECS) Garments", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1998 (Abstract).	
	D25	Kuznetz, L. H., "Space Suit and Life Support Systems for the Exploration of Mars", AIAA Space Proj. & Technol. Conf. 90-3732 (September, 1990).	
	D26	Kuznetz, L. H., "Space Suit and Life Support Systems for the Exploration of Mars", Journal of The British Interplanetary Society, Vol. 45, pp. 215-224 (1992).	
	D27	Mulligan, J. C., et al., "Use of Two-Component Fluids of Microencapsulated Phase-Change Materials for Heat Transfer in Spacecraft Thermal Systems", 6 <sup>th</sup> AIAA/ASME Joint Thermophysics and Heat Transfer Conference (June 20-23, 1994).	
	D29	NASA Tech Brief, "Design Concept/Algorithm for Integrated Passive Body Cooling Garment Using A Phase Change Material (PCM) Slurry", vol. 15, issue 7, p. 44 (July 1991).	
	D29	NASA, "Space Suit Thermal Control Using Non-Toxic Microencapsulated Two-Phase PCM Fluid", Triangle Res. & Dev., Small Business Innovative Research, Award date: 1988 (Abstract).	
	D30	NASA, "Spacesuit Glove-Liner with Enhanced Thermal Properties for Improved Comfort", Triangle Res. & Dev., Small Business Innovative Research, Award date: 1989 (Abstract).	
	D31	NASA Tech Briefs, "Garment Would Provide Variable Cooling", (1991)	
	D32	NASA Tech Briefs, "Phase-Change Heat-Storage Module", p. 103, (April 1989).	
	D33	NASA Tech Briefs, "Microencapsulated Phase-Change Materials for Storage of Heat", Machinery, Books and Report, (July 1989)	
	D34	NSF, "Spinning Performance of Melt-Spun Fibers Containing Microencapsulated Phase Change Material", Triangle Res. & Dev., Small Business Innovative Res., Award date: 2000 (Abstract).	
	D35	NSF, "Spinning Performance of Melt-Spun Fibers Containing Microencapsulated Phase Change Material", Triangle Res. & Dev., Small Business Innovative Res., Award date: 2001 (Abstract).	
	D36	NSF, "Two-Component Cutting/Coolant Fluids for High-Speed Machining", Triangle Res. & Dev., Small Business Innovative Research, Award date: 1990 (Abstract).	
	D37	NSF, "Two-Component Cutting/Coolant Fluids for High-Speed Machining", Triangle Res. & Dev., Small Business Innovative Research, Award date: 1992 (Abstract).	
	D38	NSF, "Materials for Extending Endurance and Productivity of Underwater Divers in Cold Waters", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1995 (Abstract).	
	D39	NSF, "Regulation of Moisture and Thermal Microenvironments to Improve Mycoherbicides", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1997 (Abstract) Phase I.	
	D40	NSF, "Regulation of Moisture and Thermal Microenvironments to Improve Mycoherbicides", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1997 (Abstract) Phase II.	
	D41	NSF, "Investigation of Phase Change Materials Microcapsules for High Temperature Applications", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1996.	

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	D42	NSF, "Stabilization of Microenvironmental Temperatures on Plant Surfaces with Microencapsulated Phase Change Materials to Prevent Frost/Freeze Damage", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1998.	
	D43	Quagliaroli, J., et al., "In-House Testing of Thermal Material for Space Application", Amer. Inst. Of Aeronautics & Astronautics (2001) AIAA Paper No. 2001-1450.	
	D44	SOCOM, "Hybrid Lightweight Protective Body Armor with Impact Absorption and Passive Thermal Management", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1998 (Abstract).	
	D45	Trevino, L. A., et al., "Advanced Space Suit Insulation Feasibility Study", SAE Technical Paper Series, 30 <sup>th</sup> Intl. Conf. on Environmental Systems (July 10-13, 2000).	
	D46	USDA, "Phyllosphere Microclimate with Micropcms to Improve Mycoherbicides", Triangle Res. & Dev., Small Business Innovative Res., Award date: 1998	
	D47	USAF Small Business Innovation Research Program, "Microencapsulated Phase Change Materials for Enhanced Heat Transport and Storage in Electronic Systems", res. Performed by Dr. David P. Colvin	
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